QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

SPECIAL ANATOMY.

1. *Structure of Bone.* By Professor JOHN MULLER of Berlin.—"*Purkinje* and *Deutsch* have lately published some interesting investigations, entitled, *De Penitiori Ossium Structurâ;* Diss. inaug. Vratisl. 1834. Tab. i. These investigations have been continued in Berlin by Dr. Miescher, who has for the most part confirmed their accurracy. *Purkinje* and *Deutsch* examined the cartilage of the bone cut into thin plates, and from which the earthy salts had been removed by an acid. Transverse slices of the long bones, when examined by the microscope, present cross sections of the longitudinal canals that traverse the substance of the bone; while longitudinal slices exhibited these canals in the direction of their axes. These canals contain marrow, and do not run together very frequently. In bones of a spongy texture they are replaced by cells containing medullary matter. These authors were lucky enough to discover the lamellar structure of the cartilaginous frame work of the bones. In the transverse sections the laminæ presented circular lines described round each of the canals; while in the longitudinal they appeared like lines parallel to the axis of each canal.

"The intervals between the laminæ that surround each minute medullary canal, are occupied by other laminæ that form larger circles round the central medullary cavity of the whole bone; in the broad bones of the cranium, and other flat bones, the laminæ lie parallel to the surface. *Miescher* has entirely confirmed these observations. The microscope discloses also other lines which run across these laminæ, perpendicular to their surface, and which *Deutsch* believed to be the canals that contain the phosphate of lime, a supposition not confirmed by *Miescher*, who found that the first appearance of ossification in the cartilaginous epiphyses of young bones, and in callus, consists in a microscopic dark-coloured network between the corpuscles forming the cartilage. As these lines run across each laminæ, they of course only equal in length the thickness of the latter; now *Purkinje* has made the very interesting discovery, that the cartilage of bone contains many scattered, round corpuscles, of much greater diameter than these lines; Miescher has not only confirmed this discovery, but has found similar corpuscles in the callus of fractured bones, in the cartilage of unossified skeletons, and also in those portions which either never ossify, or only do so in advanced life; as, for example, in the cartilaginous portions of the ribs and the larynx. These parts consist, as is well known, not of a fibrous, but an homogeneous structure, throughout which these corpuscles are scattered."—p. 59 *et seq.*

Müller remarks upon this subject, that the laminæ visible in the cartilage do not make their appearance until after the formation of the minute medullary canals, and consequently the former cannot be considered as *primitive* constituents of cartilage. He observes, too, that these laminæ distinguish cartilage from periosteum, and serve, along with the presence of the corpuscles above referred to, to distinguish most definitely the structure of the cartilages of bones from that of periosteum, which consists of tendinous fibres. These corpuscles are not the chief seat of the earthy or saline particles, nor does it yet appear how the latter are distributed. When the laminæ of bones, tinged with madder, are examined, the colour appears universally disseminated throughout the whole mass, and consequently as the earthy particles are the cause of fixing the colouring matter, they may be concluded to be equally diffused.

The corpuscles above spoken of, as visible in cartilage after the removal of the osseus particles, by means of an acid, may be distinguished without this in the finest laminæ or plates of the peculiarly delicate cobweb-like osseous reticulation, which we sometimes meet with in the medullary cavity of the human femur. These laminæ are quite transparent, and exhibit the corpuscles of an oval, occasionally rather elongated shape, uneven, and when viewed with a high magnifying power, jagged on the surface. This latter appearance is entirely wanting in the corpuscles of amphibious animals and fishes, and indeed generally is not met with. The outward table of the skull of pigeons exhibits plainly these corpuscles, even before the earthy particles have been dissolved out by an acid. —*Dublin Journal*, Sept., 1836.

2. *Three kidneys found in a human subject.*—Dr. C. H. Thielmann of St. Petersburg has recorded an instance of this in *Graefe und Walther's Journal für Chirurgie.* The subject of the case was a sailor æt. 30, who died at the naval hospital at Oranienbaum, of typhus fever. On dissection, the left kidney was found of an extraordinary size, but in respect of situation, colour, consistence, and the insertion of its blood-vessels and nerves, it was perfectly normal. The right kidney, the structure of which was altogether healthy, was situated opposite to its fellow the left one, and rested on the lumbar portion of the diaphragm and the quadratus lumbaris muscle. Its ureter, which was rather smaller than that of the left kidney, passed down as usual to the place where the aorta divides into the two common iliacs. At this point, there was found a third renal gland, which rested on the right iliac artery, and on the psoas muscle. This third kidney was larger than the right one, and was of an oval shape, its two ends being somewhat widened or dilated. Its anterior surface was convex, the posterior one was flattened. The ureter of the right kidney, in passing along a longitudinal groove of this supernumerary one, joined, at about the middle of the gland, its ureter, and the common canal thus formed, and which was wider than either of the regular ureters, passed down to the bladder, and entered it at the usual place on the right side. The third or supernumerary kidney received three arteries; one of these was derived directly from the aorta, another from the right iliac, and the third from the hypogastric artery. One of its veins terminated in the ascending vena cava, and the two other in the right iliac vein. Its nerves were derived from the inferior mesenteric plexus, and they were interlaced with the right spermatic and renal plexuses. The structure of this kidney was altogether similar to that of the other two, in colour and in consistence. The relative size and weight of the three kidneys may be stated thus. The left kidney weighed upwards of eight ounces—the right one between three and four ounces—the supernumerary one upwards of five ounces. The left kidney was four inches and a half long, and nearly three inches wide—the right one measured three inches and a half in length, and nearly two inches in breadth—and the supernumerary one measured three inches and a half in length, and rather more than two and a half in breadth. The right and left kidneys were provided with supra-renal glands; the supernumerary one was not. The bladder and other parts of the uro-poietic system were quite normal. The man had never suffered from any urinary affection.—*Med. Chirurg. Rev.* Jan. 7, 1837.

GENERAL ANATOMY AND PHYSIOLOGY.

3. *On some points in the Physiology of Hearing and Seeing.* By Dr. Steinheim.—Seeing and hearing singly, with double organs of sense, belong undoubtedly to the more difficult points connected with the functions of the senses. It is well known that the single sense of touch is lost by crossing the fingers; for a little ball, as for instance a pea, communicates the sensation of two, when it is rolled backwards and forwards between the two first fingers crossed.